CELLS!—UNIT PLAN☺

You must complete ALL activities in this packet.

1. Create a timeline of the following scientists:  
   1) Zacharias Jansen  
   2) Anton van Leeuwenhoek  
   3) Robert Hooke  
   4) Matthias Schleiden  
   5) Theodor Schwann  
   6) Rudolf Virchow  
   7) Louis Pasteur  
     
   Keep a list of sources that you visit. Cite these sources on your timeline in a small bubble or box that is off to the side.   
     
   As you conduct research with regards to these scientists, ask yourself the following questions:  
   \* How did this scientist contribute to the cell theory? (Keep in mind that many of these guys did all sorts of cool things. Make sure the information that you provide here is related to the cell theory.)  
   \* When did this scientist make his contribution to the cell theory?  
   \* How did this scientist's invention, idea, or experiment help lead to the rejection of spontaneous generation?  
     
    - YOUR TIMELINE   
   Now that you've gathered all of the information, it's time to put it into a timeline format.   
     
   --Now you may create the actual timeline. How you decide to present the information is up to you however the information should be clear and concise. Look at other timelines on the internet, in your textbook, or examples.

--Once you have added all of the main events, end your timeline by summarizing the cell theory in your own words. -- Look over your timeline again. Correct any grammatical errors and add any last minute touches.

1. Using the IPAD, go to the following website and answer the objectives below.

<http://www.wiley.com/legacy/college/boyer/0470003790/animations/cell_structure/cell_structure.htm>

You may also use [www.cellsalive.com](http://www.cellsalive.com)

1. Describe the differences between prokaryotic and eukaryotic cells.

Which types of organisms are prokaryotes?

Which types of organisms are eukaryotes?

1. Describe the function(s) of the organelles in prokaryotic and eukaryotic cells.

Include organelles found in plant cells that are not found in animal cells.

Know the structure and functions of the following:

Chloroplast-

Vacuoles-

Lysosomes-

Nucleus-

Mitochondria-

Endoplasmic Reticulum-

Rough-

Smooth-

Golgi Bodies(Apparatus)-

Centriole-

Flagella-

Ribosomes-

Cell/plasma membrane-

Cell wall-

Cytoplasm-

Cytosol-

Nuclear envelope-

Nucleolus-

Centrosomes-

Cytoskeleton-

Peroxisomes-

1. Using the IPAD, go to the cell and cell structure APP and complete the following:

Click on ABOUT CELL-ALL ABOUT CELLS-click through each to answer

What is a cell?

What are the 2 examples of a single cell?

What are multicellular organisms? Example?

What is an organism?

Why are cells so small?

Click on cell cycle and scale. How big are viruses?

Bacteria? Animal cells? Human cells?

Draw the cell cycle and label each stage AND what is happening!

How do cells reproduce?

Watch the mitosis animal cells video. Click on mitosis on bottom.

What is mitosis?

How many daughter cells are produced?

Draw each stage –I,P,M,A,T,C

Click on mitosis plant cells and watch!

Watch binary fission! What are the three steps?

What is an autotroph?

2 examples?

What is a heterotroph?

2 examples?

3 points of the cell theory?

Who developed the cell theory?

All cells contain what 4 things?

Which organelle makes proteins?

What carries all the genetic information that passes from one cell to new cells after the cell divides?

What are the blueprints or code for molecules in a cell?

What is an SEM?

What is an TEM?

2 types of cells AND examples?

Look at comparisons between the two types of cells and fill in chart.

Eukaryotic Prokaryote

Capsule

Cell division

Cell size

Cell wall

Cell type

DNA

Organelles

How organized

Chloroplasts

Complete the VENN diagram—copy onto THIS PAPER!

Click on 3D view and explore the animal cell AND plant cell. Click on labels and explore.

Go to prokaryotic cell parts. What do they have that eukaryotic cells have?

Do they have a nucleus?

What are ALL(5) the benefits of being multicellular?

Go back to the main page—click on interactive activities and take the quiz until you do not miss ANY!

After you have taken the quiz many times—you may explore flashcards and videos, and wordsearch.

USE THIS APP TO HELP YOU STUDY FOR THE NEXT TEST!

Reinforcement activities

D.Create a Venn diagram that compares prokaryotic and eukaryotic cells. Categories for comparison may include size, DNA structure, types of organisms, and organelles.

E. Go to <http://www.biology.ualberta.ca/facilities/multimedia/uploads/cell_biology/animalcell_DD.html> and complete the animal cell mix and match game.

F. Go to <http://www.biology.ualberta.ca/facilities/multimedia/uploads/cell_biology/plantcell_DD.html> and complete the plant cell mix and match.

G. Quia: The following Quia sites focus on cell structure and function. Go to each and PLAY!  
a. Matching: http://www.quia.com/cm/64649.html  
b. Millionaire game: http://www.quia.com/rr/86966.html  
c. Matching, memory, flashcards: http://www.quia.com/jg/549390.html  
d. Analogies: http://www.quia.com/cm/66904.html  
e. Fill-in-the-blank: <http://www.quia.com/pop/83348.html>

Use these to study for your test!

H. Complete the Cells and Their Organelles cell packet. I will give this to you.

I. Cell analogy PAPER-I will give this to you.